

REMARKS

Reconsideration and allowance are respectfully requested.

Claims 1-8 are pending.

Claim 7 stands rejected under 35 U.S.C. 112, second paragraph.

Regarding claim 7, the Examiner points out that one contact plug is connected to the first and second drain regions as well as the source region.

Claim 7 has been amended from " ... a contact plug formed to be electrically connected ... " to -- ... a plurality of contact plugs formed to be respectively connected ... --. In view of such amendment, it is respectfully requested that this rejection be withdrawn.

Claims 1 and 5-8 stand rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No 6,433,384 to Hashimoto.

Claims 2-4 stand rejected under 35 USC § 103 as being unpatentable over Hashimoto.

Hashimoto does not teach or suggest the invention of claim 1.

The Examiner asserts that Hashimoto discloses first and second channel regions are located at the SOI substrate below both ends of the floating gate 106. However, Hashimoto does not teach or suggest that both first and second channel regions are located under the same floating gate.

The Examiner asserts that Hashimoto discloses a source region 113 formed between the first and second channel regions. However, Hashimoto does not teach or suggest a source region formed between the first and second channel regions. A diffusion region 113 shown by Hashimoto is not a source region as asserted by the Examiner, but rather, a drain region. See, for instance, Hashimoto, col. 7, lines 62-63: "Thereby, a source diffusion region 112 and a drain diffusion region 113 are thus formed." (emphasis added); col. 8, lines 1-4 and lines 49-51.

The Examiner asserts that Hashimoto discloses first and second drain regions 112 at the SOI substrate 101 at both sides of the floating gate. However, Hashimoto does not teach or suggest that first and second drain regions 112 are formed at the SOI substrate 101 at both sides of the floating gate. A diffusion region 112 shown by Hashimoto is not a drain region, but a source region. See, for instance, Hashimoto, col. 7, lines 62-63: "Thereby, a source diffusion region 112 and a drain diffusion region 113 are thus formed." (emphasis added); col. 8,

lines 1-9, lines 20-24 and lines 60-62. Also, the diffusion region 112 of Hashimoto (the source region) is only formed at the SOI substrate at one side of the floating gate. Claim 1 requires that the source region (21) be formed at the SOI substrate between the first and second channel regions.

The Examiner asserts that Hashimoto discloses that data of two bits or four bits are stored at a single cell. However, Hashimoto does not teach or suggest that data of two bits or four bits are stored at a single cell. The invention of claim 1 allows the storing of 2 bits or 4 bits of data at a single cell because of the novel structure of the cell where a source region is formed between first and second channel regions below both ends of a floating gate with first and second drain regions at both sides of the floating gate and a word line above the floating gate. With such a structure, voltage differentials can be created between the word line on one side of the floating gate and on the other side of the floating gate, at either or both ends and a central portion of the same floating gate. This allows the data to be stored at both ends of the floating gate and at inner and outer portions of each end of the floating gate, for a memory storage capability of 4 bits of data at each cell. The structure of Hashimoto is different from the claimed

structure, as discussed above, and cannot store data of two bits or four bits at a single cell

In view of the above, it is believed that claim 1 is not taught or suggested by the cited reference and it is respectfully requested that the rejection of claim 1, and claims 2-8 depending therefrom, be withdrawn.

In view of the above, it is believed that the subject application is in condition for Allowance and such a Notice is respectfully requested. If anything else is needed to place the application in condition for allowance, the Examiner is respectfully requested to contact the undersigned.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Yoon S. Ham', is written over a horizontal line.

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